

shape2d.py

```
1 from vertex import Vertex
2 from utils import *
3
4 class Shape2D:
5     def __init__(self, _position : Vertex = Vertex(0, 0, 0), _vertices : list[Vertex] =
6 list(), _color : tuple[float] = None, _render_mode = GL_TRIANGLE_FAN) -> None:
7         self.position : Vertex = _position
8         self.vertices : list[Vertex] = _vertices
9         self.color = _color
10        self.render_mode = _render_mode
11
12    def draw(self, _object_position : Vertex, _true, _draw_vertices : bool = False) ->
13None:
14        glBegin(self.render_mode)
15        glColor3f(*self.color)
16        for vertex in self.vertices:
17            glVertex3f(
18                _object_position.x + vertex.x,
19                _object_position.y + vertex.y,
20                _object_position.z + vertex.z)
21            if _draw_vertices:
22                vertex.draw()
23        glEnd()
24
25    def translate(self, _vector : list[float]) -> None:
26        for vertex in self.vertices:
27            vertex.translate(_vector)
28
29    def rotate(self, _object_position : Vertex, _angle : float, _axis : str) -> None:
30        for vertex in self.vertices:
31            vertex.rotate(_object_position, _angle, _axis)
32
33    def rotate_any(self, _object_position : Vertex, _yaw : float, _pitch : float, _roll :
34float) -> None:
35        for vertex in self.vertices:
36            vertex.rotate_any(_object_position, _yaw, _pitch, _roll)
```